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Mind Fields: Reflections on the Science of Mind and Brain (Book Review)

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distinguishing the merits or problems in how they understood the world in relation to God and redemption. Particularly striking is Noll's wonder at how the revivalism of Wesley and Whitefield could so readily appropriate Enlightenment thought (86), since Wesley himself adopted much of the Enlightenment's perspective, declaring his "experimental religion" as the complement to experimental reason. Noll's own argument for the significance of Christian scholarship concerning the world relegates the crucial "cultural mandate" of Genesis 2 to a footnote (53), and is undermined by his neglecting the significance of redemption for creation rather than for an otherworldly eschaton (241-46). One might well ask whether a return to evangelical pietism is sufficient for the comprehensive Christian scholarship that Noll seeks, or whether it would simply return to the origins of the scandal.

Noll's work, which he describes as a "*cri de coeur*," reflects the struggles of his own circumstances. Despite its weaknesses, it challenges Christians to grapple with the relationship between creation and redemption, and to take up the vital task of comprehensive and ongoing Christian scholarship. As Noll rightly suggests, failure to do so means not abdicating cultural leadership to secular thought, but also neglecting to live gratefully for our sovereign Lord with our whole lives.

Mind Fields: Reflections on the Science of Mind and Brain by Malcolm Jeeves (Baker Books: Grand Rapids, 1994). 135 pages. $9.95, softcover. Reviewed by Paul Moes, Professor of Psychology

Perhaps the next great debate among Christians will not be the over the origin of humans or the role of women in the church. The next controversy may very well be related to the issues of responsibility and the dignity of humans in the context of continued scientific advances into the workings of the brain. At a recent conference honoring Nobel Prize Laureates in neurobiology, several conference speakers noted that perhaps the two areas of science currently causing the most profound rethinking of our world are molecular genetics and brain science. Recent books, such as Oliver Sack's popular *The Man Who Mistook His Wife for a Hat* and Antonio Damasio's more recent *Descarte's Error*, have illustrated for a wider audience the profound link between the highest levels of human thinking—perhaps even moral behavior—and brain functioning. In addition, Christians increasingly face complex issues such as how faith relates to human responsibility in the face of biological changes. Even the debate in the church over homosexuality often centers on what possible biological causes imply for understanding biblical statements.

These issues, and many more, make Malcolm Jeeves' book, *Mind Fields: Reflections on the Science of Mind and Brain*, a timely work. While the book is based on a series of lectures given at the University of South Wales, Australia, and therefore directed to an academic audience, it contains much of value for the general reader. Some background in science areas such as biology or psychology would make the book easier to tackle, but the determined reader without such background will still find a wealth of insights into the nature of brain and mind.

The book examines the evidence for the "ever tightening link between mind and brain" and the implications of this evidence for the age-old question, "what then is man?" The primary theses that Jeeves presents are that (1) the evidence for the link between mind and brain is indeed very compelling, (2) humans are psycho-physical unities, and (3) the ever tightening link between mind and brain does not imply that we can ever be understood in material terms. Stated another way, mind matters!

Despite these clear and well articulated positions, many of the issues discussed illustrate the title, namely, that examining such issues is a bit like walking through a mine field—one fears there may be trouble no matter whichcourse is taken. Helping us negotiate through such treacherous areas is the very capable Professor Jeeves, who has written several invaluable books for the Christian academic community, such as *Psychology Through the Eyes of Faith* (co-authored by David Myers), and *The Scientific Enterprise and the Christian Faith.* Internationally recognized for his work in neuropsychology, Professor Jeeves possesses a wealth of knowledge and insights which he offers to the Christian community concerning this rapidly expanding field.

The opening chapter sets the stage for the issues by way of three vignettes. In one of these stories Jeeves describes how Dr. Samuel Johnson in 1783 suddenly lost his power of speech. His physician assumed that the cause lay in the throat and treated the problem by inflicting blisters on the side of his neck. The point of the story is that for most of our history humans have had a hard time accepting the idea that behaviors—even simple ones—could be controlled by such a seemingly unimportant structure as the brain. Still today we struggle to understand how consciousness and personalities could be embodied in such an organ.

The remainder of the first chapter and all of the second trace the history of our thinking about the brain and the means by which researchers study it. The history described focuses on the growing evidence for localization of function within the brain. Simply put, localization is the notion that very specific areas of the brain control very specific behaviors and sensory abilities. Jeeves traces the concept from the 19th century pseudoscience called phrenology, which taught incorrectly that specific personality traits could be localized in very specific cortical bulges, to the modern day imaging techniques which allow us to observe the activity of specific areas during mental activities. Following a brief but fascinating description of current studies on hemisphere differences within the brain, Jeeves describes one of the more surprising pieces of evidence for localization— face recognition. Using findings from single-cell recording, brain scanning techniques, and perceptual theory, Jeeves shows the convergence of diverse approaches to our understanding of how the brain processes complex images. However, he cautions the reader against simplistic interpretations. He reminds us regularly that we can never fully understand human behavior by understanding only the physical properties of the brain. Full understanding requires the "top-down" research of cognitive science, along side the molecular approach of neurobiology.

Chapter three describes the latest research into such areas as schizophrenia, dementia, and brain tissue implantation. Again a holistic approach is promoted throughout. Novice readers may well find the fourth chapter, dealing with neural networks and distributive processing in the brain, the most difficult to maneuver. Chapter five returns to focus on the environment, showing how stress, learning, behavior patterns, and lifestyle choices play amajor role in shaping our personality and ultimately our brains. The final three chapters focus on the broader issues of how we should approach the study of humans, as well as how we should interpret the results of brain research from a Christian worldview.

Like Oliver Sacks, Antonio Damasio, and others who have recently promoted the importance of consciousness and its guiding role in behavior, Jeeves argues convincingly that consciousness is not merely a by-product of neural events. Using arguments put forth by the Nobel Laureate Roger Sperry, consciousness is described as exerting, "potent causal effects in the interplay of cerebral operations" (106). Jeeves is careful not to introduce another form of dualism at this point. He makes clear that mind is not another form, but an inherent quality of the brain.

While recognizing the danger of computer analogies, Jeeves uses the illustration from the neuropsychologist and Christian apologist Professor Donald Mackay. Mackay suggested that a programmer would argue that a computer's operation is determined by the formula entered by the programmer. The computer engineer, however, would suggest that the computer's actions are determined by physical laws governing the sequences of events. Both of these statements would be true, yet neither is adequate to explain the working of a particular formula. The equation is entirely "embodied" in the computer and is therefore wholly dependent on its function; damage the computer and the formula cannot be solved. Likewise the computer action is wholly dependent on the formula and its structure; enter an incorrect formula and the outcome will be incorrect. The formula is not a life force or substance, yet there it is, guiding the operation of the computer. Likewise the soul or mind (or whichever term one uses in a dualistic or tripartite system) should not be likened to a substance, force, or separate entity, but to a living quality that truly is responsible for the actions of the brain. Thus, individuals may be constrained by the workings of the brain, but they are induced to action by the conscious mental life they possess.

While drawing analogies to computers—and at other times making comparisons to animals—Jeeves regularly reminds the reader to keep the dignity of the person intact. This dignity is not dependent on the complex workings of the brain nor the cognitive qualities of language, reason, or emotion we may possess. Dignity is a property of our relationship with our Maker, as well as our capacity for interpersonal relationships.

Two interesting yet difficult discussions relate to the issue of free will. Chaos theory is used in chapter seven to suggest a possible mechanism for freedom of choice in an otherwise determined system. I found this particular argument difficult to understand and difficult to square with other arguments that the author puts forth suggesting that mind was indeed not determined at all. However, the thought is intriguing, and one that cannot bequickly dismissed. Jeeves also reiterates the argument put forth by Donald Mackay for "logical relativity and freedom of choice" (113). Those familiar with Mackay's writings will again recognize this as an intriguing yet difficult argument to follow. I would recommend to the reader that readers not completely familiar with Mackay's argument not spend too much time trying to understand the logic of Jeeve's argument at this point.

For Christians struggling to understand our proper approach to science, Jeeves offers some very important observations. He rightly points out how values affect into our understanding of so-called facts. Descriptive labels such as "learning disabled," "immature," or "self-actualized" are in reality value judgements about how we view responsibility and what types of behavior we find important. The same can be said for much in brain science when we casually describe someone with clinical depression as having a "chemical imbalance."

By distinguishing between "world views" and "world pictures," Jeeves helps us understand how we should approach the findings of science. By world view he means "a set of fundamental beliefs about the ultimate nature of reality" (125). World views speak about the ultimate source of our existence and the fundamental purpose and character of the created order. World pictures on the other hand are conceptual models concerning that created order. To be sure, they are affected by our world view but they are also dependent on the physical reality that they address. Thus, world pictures can be value laden, and therefore subject to interpretation, but they are often accurate summaries of the creation. Thus, they serve a useful purpose in organizing a wide array of scientific outcomes. Problems arise when we confuse these issues and "world views are smuggled into world pictures and presented as if they were an intrinsic part of those world pictures" (125). Jeeves argues that while world pictures do come with presuppositions, they are working models more dependent on the area of inquiry than on the particular world view.

Thus, Christians may share the same world view, but have completely different descriptions about the nature of mind and brain. Each may remain true to the shared understanding of that world view. Likewise, non-Christians may have completely different world views from our own, yet share a common picture of one aspect of reality. Jeeves concludes that we can take comfort from the fact that while world pictures may constantly change with new discoveries and insights, God's sustaining grace will keep his care over us and our ultimate view of his world intact.

Risen Indeed: Making Sense of the Resurrection, by Stephen T. Davis (Grand Rapids, Eerdmans), 1993, 219 pages, paperback, $16.95. Reviewed by Michael Williams, Associate Professor of Theology

Davis has a straightforward agenda in this book. He wants to defend the classical doctrine of the resurrection of Jesus Christ and articulate the importance of the doctrine for the Christian faith. This double purpose comes from two observations regarding the status of the doctrine: (1) "Many believers today either ignore or misconstrue Christian teachings about the subject," and (2) "Even those Christians who can affirm credal statements about bodily resurrection often find that the doctrine plays no foundational or ordering role in their understanding of themselves or their faith" (viii). The two fundamental questions relative to the resurrection of Jesus Christ are these: (1) What happened on Easter morning?, and (2) What is its significance? These two questions complement the purpose of the book.

Davis has produced a creative and insightful exercise in philosophical apologetics. He does not disappoint in his promise to offer a reasoned defense of the resurrection. He lays out three ways Christians historically have understood the resurrection of Christ. (1) Jesus actually, historically and bodily, arose from the dead. (2) Jesus arose from the dead, but it was not a bodily resurrection or a historical event, as we understand such things. The resurrection took place in a spiritual realm which transcends history and the phenomenal realm. We might say that the resurrection was a "spiritual" event. (3) Jesus did not actually arise from the dead in any real sense. He arose "in our hearts." That is to say, while the story of the resurrection has no historical referent, it does have a historic significance for us as a morality tale, or as an illustration of some psychological truth.

The third option, the Kantian interpretation of much of the liberal theological tradition, suggests that the factual question of the resurrection is irrelevant. What is far more important is the psychological event of faith. Davis expends considerable energy dealing with the Kantian/pietist interpretation. Aside from the faulty fact-value dichotomy implicit within the position, Davis suspects that what really motivates it is a naturalistic worldview and a backreading of naturalism into the substance of the biblical affirmation of the resurrection (37ff).

Davis confessionally responds that the resurrection of Jesus means little if it did not happen (ix, 192). While this is certainly the place to start, Davis is aware that a confessional affirmation does not constitute a defense of the event. The apologetic for the resurrection, over against a naturalism which claims that history is a closed nexus of cause and effect, must establish the plausibility of both supernaturalism (the